

REMARKS

This Amendment is prepared in response to the third Office action (Paper No. 20060925) mailed on 19 October 2006. Upon entry of this amendment, claims 1-37 will be pending. Applicant has newly added claims 36 and 37 by this amendment.

In Paper No. 20060925, the Examiner rejected claims 1, 14, 15, 16, 18, 19 and 20 under 35 U.S.C. 103 (a) as being unpatentable over USP 5,479,445 to Kloker et al in view of Scott. Applicant traverses this rejection for the following reasons.

In independent claims 1, 15, 16 and 19 and again in their depending claims, Applicant claims a video player. Applicant has reviewed Kloker and can find no evidence of a video player in Kloker. Because Applicant claims a video player and because neither Kloker nor Scott pertain to a video player, the rejection to claims 1, 15, 16 and 19 is without merit.

In independent claims 1, 15, 16 and 19 and again in their depending claims, Applicant claims an A/V IC chip. Applicant has reviewed Kloker and can find no evidence of an A/V IC chip in Kloker. Because Applicant claims an A/V IC chip in claims 1, 15, 16 and 19 and because neither Kloker nor Scott do not pertain to an A/V IC chip, Applicant submits that the rejection to claims 1, 15, 16 and 19 in Paper No. 20060925 is without merit.

Regarding Applicant's independent claims 1 and 15, Applicant claims in independent claim 1, "storing the mapped data in a lookup table" and "reading serial data ... from the lookup table". Similarly, in independent claim 15, Applicant claims "mapping control signals corresponding to possible control states and storing the mapped control signals in a lookup table". On Page 10 of Paper No. 20060925, the Examiner admits that Kloker fails to teach the lookup table feature but states that, "Scott discloses lookup tables in his signal transmitting method (figure 6, data encoder 603, column 11, line 42-48, input buffer and serial input data qualifier 608, line 17-65)". Applicant disagrees for the following reasons.

According to Scott, an apparatus may transmit/receive through serial communication both commands and data which are multiplexed among a plurality of devices. However, such an apparatus cannot also realize the embodiments of Applicant's invention such as a video player, an AV IC and a transmitting/receiving method. In particular, the apparatus of Scott cannot include a first look-up table of the video player and a second look-up table of the AV IC.

Applicant further submits that it is unreasonable to insist that an encoder (603) and a decoder (602) of Scott are similar to lookup tables if Applicant's claimed invention. This is because the encoder (603) of Scott merely performs an operation of grouping variable data (8-10 bits) and variable commands (2-4 bits) into fixed numbers of bits to be transmitted. Scott changes the number of bits of output data in accordance with the bit patterns defined by the adopted coding conventions. In Scott, the encoder 603 encodes 12 data inputs into 10, 11, or 12 bits using the coding conventions.

For example, 8, 9, 10 DATA bits and 4, 3, 2 COMMAND inputs are encoded into 10, 11 or 12 bits (see column 7, lines 41-54 and column 15, lines 55-66 of Scott).

In Applicant's invention, control signals or serial data are made to correspond to possible control states by use of a lookup table. The number of control states corresponding to serial data determines the length of the serial data to be transmitted. For example, if the control states of the first and second groups are used to control a video/audio integrated circuit (IC), the serial data has a length of 2 bytes. As a result, Scott is very dissimilar to that of Applicant's claimed invention and Scott can not fairly teach lookup tables as claimed by Applicant.

Furthermore, Applicant submits that Scott does not perform a mapping operation as in Applicant's claimed invention. Applicant's claimed invention performs a mapping operation between, serial data, and control states. Applicant submits that if Kloker were to be modified according to Scott, Applicant's claimed invention would not result as such a modification of Kloker would not fairly teach a mapping operation.

Regarding Applicant's claim 14, Applicant claims that the serial data is synchronized to a synchronization signal when a chip select signal is enabled. On Page 11 of Paper No. 20060925, the Examiner states that this is taught in col 10 lines 29-43 of Kloker. Applicant disagrees. Applicant submits that col 10, lines 29-43 of Kloker teach mode control. Applicant submits that mode control in Kloker has nothing to do with synchronization or chip select. Mode control pertains

to selection of a serial mode that pertain to the shifting, the number of bits and format that the data is sent. Applicant has reviewed the entire reference to Kloker and can not find any evidence of chip selection and synchronization that accompanies serial transmission of control signals. Because of this, the rejection to claim 14 must be withdrawn.

Regarding Applicant's claim 20, Applicant claims, "wherein the serial data is formed of a first group having necessary control states corresponding to the operation modes of the video player and the [an] other group having control states corresponding to selective operation modes attached to the operation modes, and the decoder preferentially decodes control signals corresponding the first group". On Page 15 of Paper No. 20060925, the Examiner states that this limitation is taught by column 42, lines 1-30 of Kloker. Applicant disagrees. Applicant submits that column 42, lines 1-30 of Kloker is claim 26 of Kloker. Applicant has reviewed this section of Kloker and can not find any comparable feature in this section of Kloker that corresponds to this grouping feature of Applicant's claim 20.

Claim 26 of Kloker discuss two audio channels and two non-audio channels, but there is no teaching that data in one channel is for necessary control states and data in the other channel is for selective operation modes as taught and claimed by Applicant. The channels are for left and right audio channels, not for grouping of control states that correspond to operation modes of video players. Because claim 26 of Kloker does not teach the limitations of Applicant's claim 20, the rejection of Applicant's claim 20 is without merit.

In the rejection of claims 1, 14, 15, 16, 18, 19 and 20 in Paper No. 20060925, the Examiner relies on Kloker for a teaching of every feature except the look up table features. The Examiner turns to Scott to fill in for this deficiency. Applicant objects. Applicant submits that one having ordinary skill in the art would not be inclined to turn to Scott to fill in for the deficiencies of Kloker.

Kloker pertains to a transceiver that can transmit serial data from one audio source to an audio sink. Kloker seeks to allow for formatting of the serial data so that the transceiver can interface with all types of audio sinks without requiring extra circuitry. Kloker achieves this by allowing a user to program a mode control signal to inform the transceiver what serial mode the data must be formatted in. When the transceiver receives this mode control signal, it automatically reformats the serial data by providing the correct number of bits and the correct shifting so that the data is in the correct format for the receiving device. Kloker has nothing to do with parallel transmission of data, has nothing to do with conversion of data between parallel and serial. Furthermore, the received data received by the audio sink in Kloker is not reconverted back into the format it was originally sent in by the audio source.

Scott, in contrast, pertains to an apparatus and a method of transmitting data. At first, the data is in parallel. Then it is put into serial form, transmitted, and reconverted back into parallel form. The serial data channel between the transmitter and the receiver in Scott comprises two separate lines or two separate pins to allow for cascading.

In Paper No. 20060925, the Examiner states that the reason why one having ordinary skill in the art would want to turn to Scott to fill in for the deficiencies of Kloker is “to reduce the amount of component in the circuitry to achieve a cost efficient system.” Applicant disagrees.

To begin with, there is no teaching in Kloker as to why Kloker needs or would benefit by parallel to serial conversion, serial to parallel conversion, etc. In Kloker, the data is sent in serial form and is received in serial form with no conversion to parallel. There is no hint in Kloker as to why Kloker can be improved if serial to parallel or vice versa conversion was to be employed. Because of this, Applicant submits that one having ordinary skill in the art would not be inclined to turn to Scott to fill in for the deficiencies of Kloker.

Furthermore, Kloker teaches that serial data is reformatted once by the transceiver when sent from the source to the sink. There is no teaching in Kloker that the same data is reconverted back into its original format. In contrast, Scott teaches encoding and then decoding, to put the data back in its original parallel format. Because of this, Applicant submits that Scott and Kloker are unrelated to each other, and thus cannot be combined.

Kloker merely pertains to reformatting serial audio data into a format that can be used by another audio device. This reformatting pertains to the number of bits in an audio sample, bit protocol, bit shifting, etc. Scott pertains to parallel to serial conversion and serial to parallel conversion. These two tasks are unrelated to each other and thus should not be combined.

In Paper No. 20060925, the Examiner rejected claims 2, 3, 4, 5, 6, 7, 9, 11, 12, 13 and 17 under 35 U.S.C. 103 (a) as being unpatentable over Kloker in view of Scott and further in view of USP 5,966,496 to Takimoto.

With respect to the rejection of claims 2-7, 9, 11, 12-13 and 17, Applicant has the following comments. Takimoto relates a DAT (Digital Audio Tape) that records serial data, but does not disclose the transmission of both data and commands in the form of serial data.

A DAT may multiplex audio data and non-audio data and transmit/receive the same among its internal components. However, such a device does not suggest the video player, the AV IC or the transmitting/receiving method of the present invention. In particular the device does not suggest the first look-up table (if the video player and the second look-up table of the AV IC of the present invention. Therefore, the combination of Kloker, Scott and Takimoto cannot possibly teach Applicant's claims 2-7, 9, 11-13 and 17.

In claims 2 and 17, Applicant claims, "grouping possible control states into a first group having necessary control states corresponding to the operation modes of the video player, and other groups having control states corresponding to selective operation modes attached to the operation modes". In Paper No. 20060925, the Examiner turns to Takimoto, and in particular, to columns 15-17 of Takimoto for a teaching of this limitation. Applicant disagrees.

To begin with, Takimoto pertains to handling and recording of “sub-information” along with video and audio signals on a tape. This sub-information contains the television signal format and a recording mode such as tape speed. In contrast, Applicant’s invention is about handling of control signals to control a VCR, not about recording additional information on a tape. Applicant submits that Takimoto is not about handling of control signals. Takimoto is about recording sub-information on a tape. Therefore, the purpose and construction of Takimoto is unlike that of Applicant’s claimed invention.

In claims 2 and 17, Applicant claims, “mapping serial data corresponding to each of the control states.” In Paper No. 20060925, the Examiner never addresses this limitation in the rejection of claim 2. Furthermore, Applicant can not find any comparable feature in Takimoto that reads on this mapping limitation.

Regarding Applicant’s claim 6, Applicant claims an entire lookup table for the first group of control states. In Paper No. 20060925, the Examiner, in the rejection of claim 6, merely states “claim 6 meets the limitations of claim 3, 4, and 5”. Applicant objects. Applicant submits that this is evidence of an incomplete examination of Applicant’s patent application. Furthermore, Applicant cannot find any evidence of the table of Applicant’s claim 6 in the applied prior art, including the reference to Takimoto. Therefore, this claim rejection of Applicant’s claim 6 is without merit.

Regarding Applicant's claim 9, Applicant claims, "wherein in the mapping process, control states related to the mixing ratio of luminance/chromaticity signal, recording current control amount, recording equalize control amount, etc., are grouped into a third group and mapped". On Page 19 of Paper No. 20060925, the Examiner states that this feature is taught at column 14, line 37 through column 15, line 21 of Takimoto. Applicant disagrees. Applicant has reviewed this section of Takimoto along with the entire reference to Takimoto and can not find any evidence of a luminance/chromaticity signal or recording current or equalize control amount. Applicant submits that this section of Takimoto instead pertains to dubbing and digital audio output, not luminance/chromaticity signal or recording current or equalize control amount. Therefore, the rejection of claim 9 is without merit.

Applicant further submits that one having ordinary skill in the art would not be motivated to turn to Takimoto to fill in for the deficiencies of Scott and Kloker. Scott has to do with parallel to serial and then back to parallel conversions. Kloker pertains to a transceiver that can be used to transmit audio data to a wide variety of audio devices by changing the data format. Takimoto pertains to recording sub-information along with video and audio signals on a tape in a video reproducing apparatus. Applicant submits that the purpose and construction of Takimoto and that of Scott and/or Kloker are entirely unrelated

Applicant submits that Scott and Kloker are about signal handling whereas Takimoto is about recording additional information on a tape. Applicant submits that there is no reasonable nexus

between Takimoto and the references of Scott and Kloker. Further, the purpose and construction of Takimoto is entirely unrelated to that of Scott and Kloker. For these reasons, Applicant submits that Takimoto is not combinable with either Scott and/or Kloker.

In Paper No. 20060925, the Examiner justifies combining Takimoto with Scott and Kloker by saying, on the bottom of Page 16 and the top of Page 17, that the incorporation of the mapping process of Takimoto reduces the amount of component in the circuitry to achieve a cost efficient system. Applicant first submits that Takimoto does not teach the mapping. Secondly, the Examiner never addresses how Takimoto further improves the parallel to serial to parallel scheme of Scott and the reformatting of data of Kloker. The Examiner is merely haphazardly combining references to reject Applicant's claims without proper justification and without proper motivation. Therefore, the rejection of claims 2, 3, 4, 5, 6, 7, 9, 11, 12, 13 and 17 must be withdrawn.

In Paper No. 20060925, the Examiner rejected claim 30 under 35 U.S.C. 103 (a) using Scott in view of Rhoads and further in view of USP 6,016,169 to Mok.

In claim 30, Applicant claims, "wherein said A/V IC chip comprises three electrical input pins, one for the control signals, one for the clock signal, and the last for the chip select signal". In Paper No. 20060925, the Examiner states that this feature is taught by FIG. 2 of Mok, which shows a reference numeral 100 that has three inputs, a CK, a D and a SET. Applicant disagrees.

Applicant submits that reference numeral 100 of Mok is a fusing portion of a frequency modulation circuit. Fusing portion 100 contains a fusing circuit 30 that melts fuse elements. Applicant submits that fusing portion 100 of Mok is not and can not be an A/V IC.

Fusing portion 100 of Mok is used to make IC's for video cassette recorders. Fusing portion 100 of Mok is not a video cassette recorder and is not part of a video cassette recorder. Furthermore, fusing portion 100 of Mok is not used during the operation of a video cassette recorder. For these reasons, the rejection of claim 30 in Paper No. 20060925 using Mok is entirely without merit.

In Paper No. 20060925, the Examiner rejected claims 21-29 and 31-35 under 35 U.S.C. 103 (a) as being unpatentable over USP 4,710,922 to Scott in view of USP 5,832,119 to Rhoads and further in view of USP 6,229,951 to Schultz. Applicant traverses this rejection for the following reasons.

In Paper No. 20060925, the Examiner relies on Scott for a teaching of nearly every feature, including the lookup table. Applicant disagrees. Applicant submits that there are numerous features and limitations in Applicant's claims 21-29 and 31-35 are not present in either Scott as well as Rhoads and Schultz.

Specifically, Applicant claims in claim 21, “a first lookup table for encrypting said control signals allowing said control signals to be transmitted over a single electrical line in serialtim”. On Page 3 of Paper No. 20060925, the Examiner states that Scott teaches this limitation in figure 6, data encoder 603 and column 11, lines 42-48 of Scott. Applicant disagrees.

Applicant further submits that it is unreasonable to insist that an encoder (603) and a decoder (602) of Scott are similar to lookup tables if Applicant’s claimed invention. This is because the encoder (603) of Scott merely performs an operation of grouping variable data (8-10 bits) and variable commands (2-4 bits) into fixed numbers of bits to be transmitted. Scott changes the number of bits of output data in accordance with the bit patterns defined by the adopted coding conventions. In Scott, the encoder 603 encodes 12 data inputs into 10, 11, or 12 bits using the coding conventions. For example, 8, 9, 10 DATA bits and 4, 3, 2 COMMAND inputs are encoded into 10, 11 or 12 bits (see column 7, lines 41-54 and column 15, lines 55-66 of Scott).

In Applicant’s invention, control signals or serial data are made to correspond to possible control states by use of a lookup table. The number of control states corresponding to serial data determines the length of the serial data to be transmitted. For example, if the control states of the first and second groups are used to control a video/audio integrated circuit (IC), the serial data has a length of 2 bytes. As a result, Scott is very dissimilar to that of Applicant’s claimed invention and Scott can not fairly teach lookup tables as claimed by Applicant.

Again regarding Applicant's claim 21, Applicant claims, "an audio/video integrated circuit (A/V IC) chip receiving control signals in serial via a single electrical pin, said control signals control said A/V IC chip". Applicant has reviewed each of Scott, Rhoads and Schultz can not find any comparable feature in either Scott, Rhoads or Schultz. Albeit true that Scott discloses a receiver 104 that receives signals in serial. However, as is clearly evidenced by FIG. 12 of Scott, the SERIN 1206 is two (2) lines, not a single electrical pin as claimed by Applicant. This is critical as the notion of Applicant's invention is to reduce the number of pins, and Scott falls short by requiring two pins to receive the serial data when Applicant clearly claims just one pin to receive the serial data. Furthermore, neither Rhoads nor Schultz teaches this feature. Because of this, Applicant submits that the combination of Scott, Rhoads and Schultz can not teach or suggest Applicant's claim 21.

Applicant also claims in claims 21, 31 and 33 that the serially received signals control the chip. The same cannot be said for the receiver chip 104 in Scott. In Scott, the received signals are then disbursed to command logic and to data sink and are used by other chips. Because the signals received by receiver chip 104 in Scott are not used to control that chip, Scott does not teach this claimed limitation of Applicant's claims 21, 31 and 33. Applicant also submits that neither of Rhoads nor Schultz teaches this feature of Applicant's claims 21, 31 and 33. Because neither Scott, Rhoads nor Schultz teaches this feature, Applicant again submits that the combination of Scott, Rhoads and Schultz fails to teach or suggest Applicant's claims 21, 31 and 34.

Regarding claims 31 and 33, Applicant claims in claim 31 “synchronizing said serial control signal with said clock signal” and claims in claims 31 and 33 “receiving said encrypted serial control signal via a first input pin on said A/V IC chip and receiving said clock signal via a second input pin on said A/V IC chip”. Applicant submits that the same can not be said to be true with any of Scott, Rhoads or Schultz. Applicant submits that the serial data sent from transmitter 103 to receiver 104 in Scott is not accompanied by and is not synchronized with a clock signal. Further, receiver 104 in Scott does not receive a clock signal from the transmitter 103. Further, neither of Rhoads nor Schultz teaches or suggests a comparable feature. For these reasons, Applicant yet again submits that the obviousness rejection of claims 31 and 33 in Paper No. 20060925 using Scott, Rhoads and Schultz is entirely implausible.

In Paper No. 20060925, the Examiner relies on Scott for an alleged teaching of parallel to serial and back to parallel conversion of data with a look-up table but acknowledges that Scott fails to teach a video player or an A/V IC chip in a video player. In Paper No. 20060925, the Examiner turns to Rhoads and Schultz for an alleged teaching of an A/V IC chip. Then, on page 3 of Paper No. 20060925, the Examiner concludes that the combination of Scott, Rhoads and Schultz teaches Applicant’s claimed invention. Applicant has the following comments.

On Page 3 of Paper No. 20060925, the Examiner states:

“Rhoads discloses a system wherein an integrated chip is part of a video player system as seen in Figure 6 and described in Column 2 Lines 20-45. The use of a video player as the system provides the proper processing of control signals

related to audio/video data. Schultz et al discloses a system wherein a[n] integrated circuit is used in the video player as seen in Figure 4 and described in Column 3 Lines 65+ through Column 4 Lines 1-15. The integrated circuit provides error correction processing at an easier speed for the system. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the micro processing apparatus, as disclosed by Scott and further incorporate a system that contains a video player, as disclosed by Rhoads, and further incorporate a system with an integrated circuit within the video player apparatus, as disclosed by Schultz et al.”

To begin with and as stated in Applicant’s Response filed on July 18, 2006, Applicant submits that Rhoads has absolutely nothing to do with an A/V IC chip in a video player. Applicant submits that Rhoads is instead about software that prevent illegal pirating (copying or viewing) of copyrighted pictures, audio or video works while providing for proper authentication of copyright works. Therefore, Applicant submits that it was inappropriate for the Examiner to apply Rhoads against Applicant’s claims as was done in Paper No. 20060925.

Applicant further submits that there is no motivation present in Paper No. 20060925 as to why one having ordinary skill in the art would turn to Schultz to fill in for the deficiencies of Scott. Applicant submits that MPEP 2143 states that a proper 35 U.S.C. 103 rejection must have a suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Applicant submits that Paper No. 20060925 as well as the applied prior art are devoid of any such motivation to combine. Because there is no motivation to combine the references, Applicant submits that the 35 U.S.C 103 rejection in Paper No. 20060925 using Scott, Rhoads and Schultz is improper.

Applicant further submits that there is no motivation present in Scott or in Paper No. 20060925 as to why one of ordinary skill in the art in possession of Scott would want to turn to Schultz to fill in for any deficiencies of Scott. Scott pertains to an apparatus that changes parallel signals to serial and vice versa. Schultz pertains to a DVD player that has an improved apparatus that allows for more efficient execution of trick play modes which are non-standard speed playback features. Applicant submits that there is no motivation present in Scott or in Paper No. 20060925 as to why one would turn to a reference like Schultz that pertains to trick play modes of a DVD player to fill in for the deficiencies of a reference like Scott that pertains to serial to parallel data conversion. Because there is no motivation present, Applicant submits that the combination of Scott and Schultz is untenable.

Applicant further submits that even if Schultz were combinable with Scott, Applicant submits that what is still lacking is a justification as to why the combined teachings of Scott and Schultz would result in exactly Applicant's claimed invention. Applicant submits that Paper No. 20060925 and the applied prior art is devoid of such an explanation as to why the combined teachings of Scott and Schultz should or could result in Applicant's claimed invention. Applicant submits that there is no proper justification as to why the parallel to serial arrangement of Scott should be used between a microprocessor and an A/V IC chip in Schultz. No such explanation has been provided by the Examiner as to why the combined teachings of Scott and Schultz would result in Applicant's claimed invention. Applicant further submits that the only plausible explanation for such a result would be that the Examiner is using Applicant's claimed invention as a blueprint for the formulation of the rejection as well as for the motivation to combine Scott and Schultz together. Applicant submits that

such a motivation is nothing but impermissible hindsight reconstruction.

Applicant further submits that the fact that in the previous Office action (Paper No. 032906), the Examiner did not use or apply Schultz, and the Office action before that (Paper No. 081205), the Examiner did not apply either Schultz or Rhoads, and the fact that Applicant pointed out to the Examiner in the Responses filed on January 25, 2006 and July 18, 2006 that Scott and Rhoads do not pertain to a video player or an A/V IC chip, is evidence that the Examiner is merely using improper hindsight reconstruction in Paper No. 20060925 by picking and choosing different features out of Schultz, Rhoads and Scott to arrive at Applicant's claimed invention. Applicant submits that this is evidence of where the motivation to apply Schultz and Rhoads and to combine Schultz and Rhoads with Scott to reject Applicant's claims is derived from Applicant's claims and Applicant's Remarks of January 25, 2006 and July 18, 2006 and not from Scott. Because the motivation to combine Schultz and Rhoads with Scott is faulty, the rejection of Applicant's claims 21-29 and 31-35 in Paper No. 20060925 can not stand.

Applicant has newly added claims 36 and 37 by this amendment which depend from claims 21 and 31 respectively and which define the A/V IC chip as having an FM modulator, a noise remover, a recording equalizer, a comb filter and an automatic gain controller. Entry of and favorable examination are respectfully requested.

No other issues remaining, reconsideration and favorable action upon all of the claims now present in the application is respectfully requested.

A fee of \$100 is incurred in the filing of this amendment for the addition of two more claims in excess of 35. Applicants' check drawn to the order of Commissioner accompanies this Amendment. Should the check become lost, be deficient in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicants' undersigned attorney in the amount of such fees.

Respectfully submitted,



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